CALIFORNIA WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

TENTATIVE MONITORING AND REPORTING PROGRAM NO. R9-2003-0002
FOR POST-CLOSURE MAINTENANCE OF
INACTIVE LANDFILLS CONTAINING
INSIGNIFICANT VOLUMES OF DECOMPOSABLE WASTES
WITHIN THE SAN DIEGO REGION

A. MONITORING PROVISIONS

1. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the RWQCB Officer. Specific methods of analysis must be identified. If methods other than U. S. EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the RWQCB prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the RWQCB .

2. If the discharger monitors any pollutants more frequently than required by this Order, using the most recent version of Standard U. S. EPA Methods, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.

3. The discharger shall report all instances of noncompliance not reported under **Reporting Requirement E.5** of Order R9-2003-0002 at the time monitoring reports are submitted. The reports shall contain the information listed in **Reporting Requirement E.5** of Order R9-2003-0002.

4. Sample collection, storage, and analysis shall be performed according to the most recent version of Standard U. S. EPA Methods, and in accordance with an approved sampling and analysis plan.

5. All monitoring instruments and equipment used by the discharger to fulfill the prescribed monitoring program shall be properly calibrated and maintained as necessary to ensure their continued accuracy.

6. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and copies of all reports required by this Order. Records shall be maintained for a **minimum of five years** from the date of the sample, measurement, report or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the RWQCB.

7. Records of monitoring information shall include:

a. The date, identity of sample, Monitoring Point from which it was taken, and time of sampling or measurement;

b. The individual(s) who performed the sampling or measurements;

c. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;

d. The analytical techniques or method used, including method of preserving the sample and the identity and volumes of reagents used;

e. Calculation of results; and

f. Results of analyses, and the MDL for each parameter.

g. Laboratory quality assurance results (e.g. percent recovery, response factor)

8. The monitoring reports shall be signed by an authorized person as required by **Reporting Requirement E.9** of Order R9-2003-0002.

8. 9. The discharger shall ensure that the laboratory analysis of all samples from Monitoring Points and Background Monitoring Points complies with the following restrictions:

a. The methods of analysis and the detection limits used shall be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (*i.e.*, "trace" or "ND") in data from Background Monitoring Points for that medium, the analytical method having the lowest method detection limit (**MDL**) shall be selected from among those methods which would provide valid results in light of any matrix effects involved.

b. Analytical results falling between the MDL and the practical quantitation limit (**PQL**) shall be reported as "trace" and shall be accompanied both by the (nominal or estimated) MDL and PQL values for that analytical run.

c. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These nominal MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.

d. All Quality Assurance/Quality Control (**QA/QC**) data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection and quantitation limits, the recovery rates, an explanation for any recovery rate that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery. In cases where contaminants are detected in QA/QC samples (*i.e.,* field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.

e. Upon receiving written approval from the Regional Board, an alternative statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (*e.g.,* methylene chloride, acetone, diethylhexyl phthalate, and din-octyl phthalate) during any given Reporting Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by the Regional Board.

f. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

g. The MDL and PQL shall be determined in accordance with the definitions of those terms in Title 27, California Code of Regulations (**27 CCR**). In the event that a Monitoring Parameter (**MPar**)'s MDL and/or PQL change, the discharger shall highlight that change in the report's summary, and the report shall include an explanation for the change that is written and signed by the owner of the analytical laboratory.

9. 10. A list containing definitions of terms and acronyms are contained in Appendix A attached to this Monitoring and Reporting Program (**M&RP**). The discharger shall ensure that the laboratory analysis of all samples from Monitoring Points and Background Monitoring Points complies with the following restrictions:

h. The methods of analysis and the detection limits used shall be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (*i.e.*, "trace" or "ND") in data from Background Monitoring Points for that medium, the analytical method having the lowest method detection limit (**MDL**) shall be selected from among those methods which would provide valid results in light of any matrix effects involved.

i. Analytical results falling between the MDL and the practical quantitation limit (**PQL**) shall be reported as "trace" and shall be accompanied both by the (nominal or estimated) MDL and PQL values for that analytical run.

j. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These nominal MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.

k. All Quality Assurance/Quality Control (**QA/QC**) data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection and quantitation limits, the recovery rates, an explanation for any recovery rate that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery. In cases where contaminants are detected in QA/QC samples (*i.e.*, field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.

l. Upon receiving written approval from the Regional Board, an alternative statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (*e.g.*, methylene chloride, acetone, diethylhexyl phthalate, and din-octyl phthalate) during any given Reporting Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by the Regional Board.

m. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

n. The MDL and PQL shall be determined in accordance with the definitions of those terms in Title 27, California Code of Regulations (**27 CCR**). In the event that a Monitoring Parameter (**MPar**)'s MDL and/or PQL change, the discharger shall highlight that change in the report's summary, and the report shall include an explanation for the change that is written and signed by the owner of the analytical laboratory.

B. SITE MAINTENANCE

1. The discharger shall perform quarterly inspections of the landfill site and report the results **semi-annually.** The report shall contain information on the sites condition and a discussion of any significant findings with regard to:

   a) General site condition;
   b) The landfill cover system, including the top deck, intermediate benches and sideslopes;
   c) Drainage facilities;
   d) The erosion control BMPs;
   d) Ground water and vadose zone monitoring networks;
   c) Methane gas control system;
   f) Observation of seepage from the site;
   g) Maintenance activities at the site; and
   h) Condition of any temporary soil stockpiles at the site.

C. GROUND WATER DETECTION MONITORING PROGRAM

1. The ground water detection monitoring program contained in this section may be waived by the RWQCB Executive Officer for: 1) inactive landfills where the discharger has demonstrated that facility does not contain significant quantities of decomposable waste; or 2) landfills which have demonstrated through either completion of a SWAT questionnaire or a SWAT report that has been no discharge of hazardous substances to ground water.

2. The discharger shall establish and maintain ground water wells at the landfill site to be used as part of the water quality monitoring program.

3. Prior to pumping monitoring wells for sampling, the static water level shall be measured in each well.

4. Prior to sampling monitoring wells, the presence of a floating immiscible layer in all wells shall be determined at the beginning of each sampling event. This shall be done prior to any other activity that may disturb the surface of the water in a well, e.g. water level measurements. If an immiscible layer is found, the RWQCB shall be **notified within 24 hours**.

5. The discharger shall submit a compliance evaluation summary of the ground water data obtained. The summary shall contain a table including the following information:

a. Monitoring parameters;
b. Detection limit of monitoring equipment;
c. Measured concentrations found in the current sampling event

6. Water samples from the compliance points shall be collected, analyzed, and reported as required by *Section C.8* below.

7. For each monitored ground water body, the discharger shall measure the water level in each well and determine ground water flow rate and direction at least semi-annually, including the times of expected highest and lowest elevations of the water level for the respective ground water body. Ground water elevations for all background and downgradient wells for a given ground water body shall be measured within a period of time short enough to avoid temporal variations in ground water flow which could preclude accurate determination of ground water flow rate and direction. This information shall be included in the semi-annual monitoring reports.

8. The discharger shall submit a list of constituents to be monitored within 60-days of receipt of this Order. Ground water monitoring shall be conducted semiannually and monitoring results shall be submitted in accordance with Section E of this Monitoring and Reporting Program.

D. REPORTS TO BE FILED WITH THE BOARD

Under the authority of Water Code Section 13267, dischargers are required to submit the following reports no later than one month following the end of their respective Reporting Period. The reports shall be comprised of at least the following in addition to the specific contents listed for each respective report type:

1. **Transmittal Letter**

A letter summarizing the essential points shall be submitted with each report. The transmittal letter shall include:

a. A discussion of any requirement violations found since the last such report was submitted and shall describe actions taken or planned for correcting the violations. If the discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter; and

b. A statement certifying that, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct. This statement shall be signed by an individual that meets the requirements contained in **Reporting Requirement E.9** of Order R9-2003-0002.

2. **Semi-Annual Report**

The semi-annual report shall contain, but not be limited to the following:

a. Site maintenance outlined in section B of this Monitoring and Reporting Program.
b. Groundwater analysis and flow rate as outlined in section C (if required) of this Monitoring and Reporting Program.
c. A map (or copy of an aerial photograph) showing the locations of observation stations, Monitoring Points, and Background Monitoring Points.

d. The discharger shall report results from **quarterly inspections** of the waste management unit and report the results to the RWQCB. At a minimum, the inspection reports shall contain information on the site condition and a discussion of any significant findings with regard to:

i. General site condition;
ii. Surface cover and slope;
iii. Drainage facilities;
iv. Ground water and vadose zone monitoring networks;
v. Methane gas control system;
vi. Observation of seepage from the site; and
vii. Maintenance activities at the site.

3. **Annual Summary Report**

The discharger shall submit an annual report to the RWQCB covering the previous monitoring year. The annual Reporting Period ends March 31.

a. For each monitoring point, submit in graphical format the laboratory analytical data for all samples taken within at least the previous four calendar years. Each graph shall plot the concentration of the constituent over time for a given monitoring point, at a scale appropriate to show trends or variations in water quality.

b. A comprehensive discussion of the compliance record, result of any corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.

c. A written summary of the monitoring results and monitoring system(s), indicating any changes made or observed since the previous annual report.

e. A topographic map at appropriate scale, showing the direction of ground water flow at the landfill site.

f. Annually, by **April 30**, a copy of its Storm Water Pollution Prevention Plan, or as updated shall be submitted to the RWQCB.

4. **Interim Landfill Cover Assessment**

Every four years beginning in **2004**, the discharger shall measure the existing thickness of the interim landfill cover system. Field measurements shall be completed during the timeframe from May – June of the reporting year. A technical report shall be submitted to the RWQCB containing the results from the landfill cover survey along with a technical assessment of the effectiveness of the existing interim landfill cover. The assessment of the interim landfill cover system shall include the following minimum information:

a. A clearly written description of the rationale and technical basis for the sampling protocol and methods used to assess the thickness of the landfill cover system.

b. Clearly written discussions of field methods used to assess the thickness of the landfill cover system. The discussions should include the method(s) used to measure the cover thickness, criteria for terminating the depth of measurement at each sample point, and methods used to backfill sampling points.

c. A plot plan, prepared at an appropriate scale, that can be used to clearly illustrate the topographic elevations of the top deck, intermediate benches, and side-slopes of the waste management unit(s) (WMUs), the sampling grid, and sample locations used to evaluate the thickness of the landfill cover system. Sampling of the landfill cover system shall include thickness measurements made on the top deck, intermediate benches, and side-slopes of the WMUs. The observed thickness of the cover system at each sample point shall be clearly labeled on the plot plan.

d. A contour map of the field sampling results of the observed cover thickness. The contour map shall be prepared at an appropriate scale to clearly illustrate the configuration of the top deck, intermediate benches, and side-slopes of the WMUs and sample

locations used to evaluate the thickness of the landfill cover system. Sampling of the landfill cover system shall include the top deck, intermediate benches, and side-slopes of the waste management unit(s). The observed thickness of the cover system at each sample point shall be clearly labeled on the plot plan.

e. A table of results from field measurements of the landfill cover system. The table of results shall include the elevation of the landfill cover at the sampling point, the depth of the landfill cover system at the sampling point. Measurements of the landfill cover system must be made to at least 24-inches below grade.

f. A clearly written evaluation of: the results from measuring the thickness of the landfill cover system, an assessment of the effectiveness of the existing cover at minimizing percolation of precipitation and conveying storm water off the landfill cover system, recommendations for required maintenance of the landfill cover system, and a proposed schedule for completing the recommended maintenance work.

E. REPORTING

Under the authority of Water Code Section 13267, the discharger shall submit monitoring reports to the RWQCB in accordance with the following schedule:

Report Frequency	**Report Period**	**Report Due**
Semiannually	April – September October – March	**October 30** **April 30**
Annually	April – March	**April 30**
Intermediate Cover Assessment Report	Previous four year period	**July 30, 2004** and every 4 years thereafter.

Monitoring reports shall be submitted to:

Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

Attn: Land Discharge Unit Supervisor

Ordered by _____**TENTATIVE**_____
JOHN H. ROBERTUS
Executive Officer
March 12, 2003